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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,033	11/03/2003	Victor Lam		2126

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EXAMINER

PERVAN, MICHAEL

ART UNIT PAPER NUMBER

2629

DATE MAILED: 05/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/699,033	Applicant(s) LAM ET AL.	
	Examiner Michael Pervan	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-14, 18 and 23-26 is/are rejected.
- 7) ☒ Claim(s) 8, 15-17 and 19-22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/3/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "23" has been used to designate both the means to distribute the power and electronic signals from the control unit to the communication unit and the power source. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 6 is objected to because of the following informalities: in line 1 "claim 2" should be –claim 1– or in the last line "claim 1" should be –claim 2–. Appropriate correction is required.

3. Claims 19-22 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

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4. Claim 19 is objected to because of the following informalities: in line 3 after "proximity" there should be no period, instead there should be a comma, colon or semi-colon. This is because claims should be written as one sentence/statement.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "can be" is indefinite. The at least two stationary rotating units either are or are not cylindrical rods.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-2, 4, 7, 9-11, 18 and 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Jang (US 6,577,286).

In regards to claim 1, Jang discloses (Figures 1 and 3) a display apparatus comprising: At least two stationary rotating units (400), which are fixed on a housing with at least one opening for viewing; A moving unit (300), which has at least one line of light emitting elements (320, 340, 360;); Means to provide smooth rotation for the

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stationary rotating units (400). A control unit (200) to provide power and control signals to the light-emitting element on the moving units; Means to provide communication between the control unit and the moving unit (col. 2, lines 61-66).

In regards to claim 2, Jang discloses (Figure 3) the at least two stationary rotating units can be a cylindrical rod (as can be seen in Figures 2 and 3, the drive motor (stationary rotating unit) is a cylindrical rod).

In regards to claim 4, Jang discloses (Figure 3) the stationary rotating units arranged parallel to each other and spaced apart (as can be seen in Figure 3, the stationary rotating units (400) are arranged parallel and spaced apart).

In regards to claim 7, Jang discloses the at least two stationary rotating units in claim 2 is further consists of efficient bearing on each end for it to carry the moving unit for fast and smooth movement (col. 2, line 61-col. 3, line 4; it's inherent that a motor contains a bearing for smooth movement).

In regards to claim 9, Jang discloses the means to provide smooth rotation for the stationary rotating unit comprises of motor and electronic control means (col. 2, line 61-col. 3, line 4).

In regards to claim 10, Jang discloses the moving unit in claim 1 comprises of a flexible substrate in dark color, which wraps around the at least two stationary rotating units from claim 1 and rotates by them to form at least one rotating plane defined by the at least two stationary rotating units (Figure 3; as can be seen from the figure display units (moving unit) are wrapped around two drive motors (stationary rotating units) to form a rotating plane).

In regards to claim 11, Jang discloses (Figures 3 and 4) the maximum number of rotating plane defined by these rotating units are always equal to the number of rotating units involved in each of the display apparatus (as can be seen in Figure 3, there are two stationary rotating units (400) and two rotating planes. As can be seen in Figure 4, there are four stationary rotating units (400) and four rotating planes).

In regards to claim 18, Jang discloses (Figure 1) the control unit in claim 1 comprises of power source (500), image source (100) and display signal source (200). and means to control them properly to display image on the moving units lighting elements (col. 4, line 63-col 5. line 22).

In regards to claim 24, Jang discloses (Figures 1 and 3) a display apparatus comprising: At least two stationary rotating units (400), which are fixed on a housing with at least one opening for viewing; A moving unit (300), which has at least one line of light emitting elements (320, 340, 360;); Means to provide smooth rotation for the stationary rotating units (400). A control unit (200) to provide power and control signals to the light-emitting element on the moving units; Means to provide communication between the control unit and the moving unit (col. 2, line 61-66); A scanning method based on using at least one line of light emitting elements to display an one page information in a line-by line format as it travels through the at least one display viewing area defined by any two rotating units (col. 4, line 63-col. 5, line 50). Each of the at least one line of light emitting elements will complete the scanning of the total number of scanning lines containing in one image frame, before it will be required to scan the same, or different image frame (col. 4, line 63-col. 5, line 50).

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In regards to claim 25, Jang discloses the line of light-emitting elements have the capability to store the display information of one whole image frame (col. 4, line 63-col. 5, line 50).

In regards to claim 26, Jang discloses the line of light emitting elements have the capability to display information of one whole image frame W times through the W display viewing openings, as W equals to the number of stationary rotating units associated with the display apparatus (col. 3, lines 19-23 and col. 4, line 63-col. 5, line 50).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jang.

In regards to claim 3, Jang does not disclose the cylindrical rod in claim 2 has a non-electrical-conductive surface.

However since the drive motors (stationary rotating units) are only used for rotational purposes and do not effect the display, it would not matter whether or not they were electrically conductive. Therefore, it would be obvious to use non-electrically conductive motors (stationary rotating units) because it will not interfere with the image being displayed.

11. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jang.

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In regards to claim 5, Jang does not disclose the at least two stationary rotating units can have a diameter in the range of 0.5" ~ 100".

Jang discloses display elements having a width of 5 mm (col. 5, lines 37-49; since there are thirty light emitting angles there must be thirty light emitting elements, therefore a display unit would be about 150 mm wide or about 6" which means the drive motors are about 20" in diameter, estimating from figure 3).

Since there is no benefit or advantage described in the specification for choosing a width between 0.5" ~ 100", the examiner believes this to be a designer's choice.

12. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jang in further view of Gassmann (US 4,733,487).

In regards to claim 6, Jang does not disclose the at least two stationary rotating units in claim 2 is further consists of at least one extruding spike on both ends for attaching the moving unit in claim 1 and for rotating this moving unit around the at least two stationary rotating units from claim 2.

Gassmann discloses the at least two stationary rotating units in claim 2 is further consists of at least one extruding spike on both ends for attaching the moving unit in claim 1 and for rotating this moving unit around the at least two stationary rotating units from claim 2 (Figures 1a and 5, col. 3, lines 23-25 and col. 4, lines 8-10).

It would have been obvious at the time of invention to modify Jang with the teachings of Gassmann, pin feed rollers and transport belt, because by having the spikes of the pin feed rollers align with the holes of the transport belt, there is less

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chance the belt will get out of alignment and will always be in the same place on the rollers.

In regards to claim 14, Jang does not disclose the moving unit in claim 10 has holes on both sides of its edges with matching spacing to the extruding spikes on both ends of the stationary rotating units in claim 6.

Gassmann discloses the moving unit in claim 10 has holes on both sides of its edges with matching spacing to the extruding spikes on both ends of the stationary rotating units in claim 6 (Figures 1a and 5, col. 3, lines 23-25 and col. 4, lines 8-10).

It would have been obvious at the time of invention to modify Jang with the teachings of Gassmann, pin feed rollers and transport belt, because by having the spikes of the pin feed rollers align with the holes of the transport belt, there is less chance the belt will get out of alignment and will always be in the same place on the rollers.

13. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jang in further view of Wang (US 5,818,401 as submitted by applicant).

In regards to claim 12, Jang does not disclose the light emitting elements in claim 1 can be light emitting diodes, or LEDs.

Wang discloses the light emitting elements in claim 1 can be light emitting diodes, or LEDs (col. 1, lines 58-65).

It would have been obvious at the time of invention to modify Jang with the teachings of Wang, LEDs as light emitting units, by replacing the display elements of

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Jang with the light emitting units of Wang because LEDs are bright, efficient and last a long time.

In regards to claim 13, Jang and Wang disclose the light emitting elements in claim 12 is arranged in a line parallel to the at least two stationary rotating units as in claim 4 (col. 3, lines 24-29).

14. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jang.

In regards to claim 23, Jang does disclose the control unit in claim 18 further comprises means to transmit electronic signal and data to the lines of light emitting elements through infrared or radio frequency devices.

However, it would have been obvious to transmit signal and data via infrared or RF because it allows the control unit to be placed anywhere in and around the device, which makes designing the device easier.

Allowable Subject Matter

15. Claims 8, 15-17 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Pervan whose telephone number is (571) 272-0910. The examiner can normally be reached on Monday - Friday between 8am - 5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MVP
May 5, 2006

AMR A. AWAD
PRIMARY EXAMINER
